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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,791	12/28/2001	Darren L. Newell	583P20US-1	3080

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EXAMINER

AHMED, SALMAN

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.:

10/028,791

Applicant(s)

NEWELL ET AL.

Examiner

Salman Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/19/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ho (US PAT PUB 2002/0136223).

Regarding Claims 1, 6, 9 and 15: A method of establishing a data transfer connection between a first node and a second node across a domain which only allows unidirectional data flow is anticipated by (page 1 section 0012) a plurality of ATM aware label switched routers, where the label switched routers are configured at an interface between the multi-protocol label switching network and the asynchronous transfer mode network.

Sending a setup message from the first node to the second node: said setup message containing a first connection service label for a backward direction of data flow, said backward direction being from said second node to said first node, receiving said setup message at said second node and reserving said first connection service label for data being sent from said second node to said first node and sending a response message

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from the second node to the first node, said response message containing a second connection service label for a forward direction of data flow, said forward direction being from said second node to said first node; and receiving said response message at said first node and reserving said second connection service label for data being sent from said first node to said second node, wherein for forward data transmission in said forward direction, data packets for said forward data transmission will be labeled with said second connection service label and for a backward data transmission in said backward direction data packets for said backward data transmission will be labeled with said first connection service label is anticipated by (page 6 section 64) the PNNI entity issuing a call Setup message which includes a Label Information Element (IE) (FIG. 6). The Information Element carries the labels, which will be used by the ATM aware LSR on the succeeding side in order to send traffic towards the ATM aware LSR on the preceding side. In response to the call Setup message, the PNNI entity (i.e. on the succeeding side) replies with a "call Proceeding" message. The call Proceeding message contains an Information Element (IE) (FIG. 6). The Information Element contains the labels, which will be used by the ATM aware LSR on the preceding side to send data traffic through the MPLS network to the ATM aware LSR on the succeeding side.

In regards to claim 6 and 9, a setup message containing a connection service label to be used by said second node when transmitting data to said first node on said data transfer connection and a response message sent in response to a setup message from a first node establishing a data transfer connection across a domain which only allows

unidirectional data flow, said response message being sent from a second node to said first node and containing a connection service label to be used by said first node when transmitting data to said second node on said data transfer connection is anticipated by (figures 2 and 6, page 3 sections 0033 and 0034) the steps of ATM shim label identifying the final destination end-point for the ATM connection. As shown in FIG. 4, the ATM shim label comprises a header, which is based on the format of an ATM standard header, and includes a connection label, a VCI (Virtual Circuit identifier) field, a PT field, and a CLP field. The connection label is used to determine the VPI for VPCs and the VPI and VCI for VCCs. Ho states that (page 4 sections 0052 and 0053) an information element or IE is provided for the ATM aware LSRs to distribute labels corresponding to ATM interfaces (or ATM interface cards) and labels for connection identifiers. The Information Element is referred to as the Label IE. The Information Element comprises a structure as shown in FIG. 6, includes a Connection Label. The Information Element is intended for signaling between two ATM aware LSRs. As shown in FIG. 6, the IE contains a stack of at least two labels, one of which is the Connection Label.

In regards to claim 15, a first network switch including: a first module for transmitting or receiving first data transmission units to or from the second domain; a second module for transmitting or receiving second data transmission units to or from the first domain; a switch core module placed between the first and second modules for switching data between the first and second modules, wherein the first network switch executes

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computer readable and computer executable instructions for implementing a method for establishing a data transfer connection between the first network switch and a second network switch across the first domain is anticipated by (claims 9 and 13) a routing and signaling protocol comprising a private network-network interface or PNNI protocol (which includes transmit and receive interfaces) , and an ATM aware label switched router (a switching interface) running an entity for the PNNI protocol. A system for interfacing a multi-protocol label switching network to an asynchronous transfer mode network for interworking traffic between the networks includes means for establishing interior connections between the ATM aware label switched routers in the multi-protocol label switching network, and said interior connections comprising trunks created dynamically between selected ATM aware label switched routers for routing traffic through the multi-protocol label switching network. It is known in the art that implementing a complex system as described above, which has interface modules and switching capabilities, requires software (computer readable and computer executable instructions) programs.

Regarding Claims 2, 7, 10, 16 and 20: A method, setup message, response message or a switch implementing a specific unidirectional protocol in which the first domain is an MPLS (Multi-protocol Label domain Switched) domain and the second domain an ATM domain is anticipated by (figures 2 and 6 and page 1 section 0004) the steps of creating of pipes through the MPLS network to carry ATM traffic. Ho teaches (page 1 section 11) that a PNNI signaling protocol is interworked to permit connections to be established

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from exterior ATM networks over the MPLS network. Ho also states (page 2 section 0023) of an operation of two ATM aware LSRs to establish an ATM connection through a MPLS network.

Regarding Claims 3, 8, 11, 13 and 17: A method, setup message, a response message, data transfer unit or a switch routes data transfer units based on at least one transport label is anticipated by (page 3 section 0032) the topmost label which corresponds to the CR-LSP that is used to transport the MPLS packet between the ATM aware LSRs. Ho teaches (page 3 section 9934) of an operation when a MPLS labeled packet arrives on a CR-LSP at the ATM aware LSR that is the endpoint of the CR-LSP, penultimate hop popping should preferably have already removed the label corresponding to the transporting CR-LSP.

Regarding Claims 4, 5, 18 and 19: A method in a switch wherein setup message/response message is labeled with a first/second predetermined control service label control messages being sent in said forward/backward direction is anticipated by (page 4 sections 37 and 38) the usage of a label at another level of the MPLS label stack to identify control traffic. The label to identify control traffic can be handled in one of two ways. First, a label may be reserved for control traffic destined for the PNNI entity on ATM aware LSRs. Alternatively, the reserved Explicit Null IPv4 (or IPv6) label may be pushed on the stack as the last entrap before the IP header. In either case, the IP source address of the encapsulating IP packet is the IP address of

the originating PNNI entity, and the IP destination address is the IP address of the remote PNNI entity.

Regarding Claims 12 and 14: A data transfer unit being sent from a transmitting node to a receiving node, said data transfer unit having a service label indicating a processing context that determines how said unit is to be processed by said receiving node, said unit being used in a unidirectional data transfer connection and said service label being determined by said receiving node and the service label is associated with a transport label switched path and specific service bindings is anticipated by (figure 4 and page 3 section 0033) the steps of ATM shim label identifying the final destination end-point for the ATM connection. As shown in FIG. 4, the ATM shim label comprises a header, which is based on the format of an ATM standard header, and includes a connection label, a VCI (Virtual Circuit identifier) field, a PT field, and a CLP field. The destination ATM interface or ATM interface card uses the connection label to determine the VPI (Virtual Path Identifier) for VPCs (Virtual Path Connections) and the VPI and VCI for VCCs (Virtual Channel Connections). In the case of VPCs, the VCI field is used to identify the VCIs for ATM VCCs that are contained in the VPC. The PT and CLP fields are as defined in the standard ATM header.

Claim Objections

3. Claims 3, 4, 5, 8, 11, 15 and 19 are objected to because of the following informalities: spelling errors. Appropriate correction is required.

Regarding Claims 3, 8 and 11: The word "routs" should be spelled as "routes".

Regarding Claims 4, 5, 15 and 19: The word "labelled" should be spelled as "labeled".

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SA

Salman Ahmed
Examiner
Art Unit 2666



DANG TON
PRIMARY EXAMINER